The Value of Health Research for Low Income Countries

The Value of Improved Health

- Several recent studies in developed countries
  - Cutler and Richardson (1997), Murphy and Topel (2003), Nordhaus (2003)
  - Multiply value of life-year saved (LYS) from statistical value of life from revealed preference studies times increase in life expectancy from 1970 to 2000
  - Value Δ LY= .2 LYS (2-3months)/person/yr * $50,000/LYS = $10,000/person/yr
    - Comparable to increase in per capita GDP over entire period
  - $3 trillion per year, or $90 trillion from 1970-2000
    - Value Δ LY = 300 million people * $50,000/LYS * 6 LYS

Value of Improved Health in Low-Income Countries

- Value of life = Population*VLY * LY
- How does this compare in India versus US?
- US (1970-2000)
  - Δ Value of life = 300 million people * $50,000/LYS * 6 LYS
    = $90 trillion
- India (1950-2000)
  - Δ Value of life = 1 billion people * $30,000/LYS * 25 LYS
    = $750 trillion
- Key factors: greater population and ΔLY; VLY similar
  - Note Δ population larger in low income countries. ΔVLY?

Future Value of Improved Health in Low-Income Countries

- Growth in value of life =

$$g_{VL} = g_{VLY} + g_{LY}$$

- Value of life increases with economic growth
  - Elasticity of VLY with respect to income = 0.5

$$\text{--> } g_{VL} = 0.5 * g_Y + g_{LY}$$

- What will drive future growth?
  - g_{LY} = 0.5-2% / yr << g_Y = 2-8% / yr
  - Main driver: income growth!
  - Magnitude: large!

Value of Health Research

- Research plays key role in advances in public health and medicine
- Gains come from research targeted initially for developed and developing countries
  - Trickle-down approaches sub-optimal
  - Large benefits of health in developing countries suggest their needs are increasingly likely to yield returns, though less for poorest countries

Value of Health Research

- Theory of the value of information
  - Expected value of best decision before research
  - Expected value of best decision after research
  - Difference is value of information
- Applications
  - Prioritization of research projects
  - Demonstration of value of research
  - Especially for applied projects